


UNION PUBLIC SERVICE COMMISSION

This advertisement is only for general information of the candidates and is not to be taken as authoritative. It sets out the salient features of the examination to enable candidates to have the basic information required to apply for admission to the examination. An exhaustive Notice is being published in Employment News/Rozgar Samachar on 18th June, 1988. Candidates are advised to refer to that for detailed information, wherever necessary.

NOTICE NATIONAL DEFENCE ACADEMY AND NAVAL ACADEMY EXAMINATION DECEMBER, 1988

New Delhi the 18th June, 1988

No. F 73/88-E-1 (B)—An Examination will be held by the Union Public Service Commission on 11th December, 1988 for admission to the Army, Navy and Air Force Wings of the NDA for the 82nd Course and Naval Academy for the 4th 10+2 (Executive Branch) course commencing from July, 1989.

The approximate number of vacancies to be filled on the results of this examination will be 380 (195 for the Army, 39 for Navy and 66 for the Air Force), and 60 for the executive branch of Naval Academy.

N.B.—A candidate is required to specify clearly in Col. 9 of the Application Form the Services for which he wishes to be considered in the order of his preference. He is also advised to indicate as many preferences as he wishes to, so that having regard to his rank in the order of merit due consideration can be given to his preferences when making appointments.

Candidates should note that they will be considered for appointment to those services only for which they express their preferences and for no other service(s). No request for addition/alteration in the preferences already indicated by a candidate in his application will be entertained by the Commission.

Admission to the above course will be made on the results of the written examination to be conducted by the Commission followed by intelligence and personality test by a Services Selection Board of candidates who qualify in the written examination. The details regarding the scheme and syllabus of the examination, and the codes for the Centres of examination are given in appendices 1 (a) and 1 (b) respectively. For details pertaining to (i) Physical Standards for admission to the Academy and Naval Academy and (ii) brief particulars of the Services etc. for candidates joining the NDA please refer to Appendices II and III of Commission's Notice published in Employment News/Rozgar Samachar dated 18th June, 1988.

2. CENTRES OF EXAMINATION:—

Agartala, Ahmedabad, Aizawl, Allahabad, Bangalore, Bhopal, Bombay, Calcutta, Chandigarh, Cochin, Cuttack, Delhi, Dharwar, Dispur (Guwahati), Gangtok, Hyderabad, Imphal, Itanagar, Jaipur, Jammu, Jorhat, Kohima, Lucknow, Madras, Madurai, Nagpur, Panaji (Goa), Patna, Port Blair, Raipur, Shillong, Srinagar, Tirupati, Trivandrum, Udaipur and Vishakhapatnam.

THE CENTRES AND DATE OF HOLDING THE EXAMINATION AS MENTIONED ABOVE ARE LIABLE TO BE CHANGED AT THE DISCRETION OF THE COMMISSION. WHILE EVERY EFFORT WILL BE MADE TO ALLOT THE CANDIDATES TO THE CENTRE OF THEIR CHOICE FOR EXAMINATION, THE COMMISSION MAY, AT THEIR DISCRETION, ALLOT A DIFFERENT CENTRE TO A CANDIDATE WHEN CIRCUMSTANCES SO WARRANT. CANDIDATES ADMITTED TO THE EXAMINATION WILL BE INFORMED OF THE TIME TABLE AND PLACE OR PLACES OF EXAMINATION.

Candidates should note that no request for change of centre will normally be granted. When a candidate, however, desires a change in centre, from the one he had indicated in his application form for the Examination, he must send a letter addressed to the Secretary, Union Public Service Commission by registered post, giving full justification as to why he desires a change in centre. Such requests will be considered on merits but requests received after 11th November, 1988 will not be entertained under any circumstances.

3. CONDITIONS OF ELIGIBILITY:—

(a) NATIONALITY:— A candidate must be either:—

(i) a citizen of India, or (ii) a subject of Bhutan, or (iii) a subject of Nepal, or (iv) a Tibetan refugee who came over to India before the 1st January, 1962 with the intention of permanently settling in India, or (v) a person of Indian origin who has migrated from Pakistan, Burma, Sri Lanka, the East African countries of Kenya, Uganda, United Republic of Tanzania (formerly Tanganyika and Zanzibar), Zambia, Malawi, Zaire and Ethiopia and Vietnam with the intention of permanently settling in India.

Provided that a candidate belonging to categories (ii), (iii), (iv) and (v) above shall be a person in whose favour a certificate of eligibility has been issued by the Government of India.

Certificate of eligibility will not, however, be necessary in the case of candidates who are Gorkha subjects of Nepal.

(b) AGE LIMITS, SEX AND MARITAL STATUS:— Unmarried male candidates born not earlier than 2nd July, 1970 and not later than 1st January 1973 are only eligible.

NOTE I:— Date of birth as recorded in Matriculation/Higher Secondary or equivalent examination certificate will only be accepted.

NOTE II:— Candidates must undertake not to marry until they complete their full training. A candidate who marries subsequent to the date of his application though successful at this or any subsequent examination will not be selected for training. A candidate who marries during training shall be discharged and will be liable to refund all expenditure incurred on him by the Government.

(c) EDUCATIONAL QUALIFICATIONS:

(i) For Army, Navy and Air Force Wings at the National Defence Academy:— 12th Class pass of the 10+2 pattern of School Education or equivalent conducted by a State Education Board or a University.

(ii) For the 10+2 (Executive Branch) course at the Naval Academy:— 12th Class pass of the 10+2 pattern of School Education or equivalent with Physics, Chemistry and Mathematics conducted by a State Education Board or a University.

Candidates who are appearing in the 12th Class under the 10+2 pattern of School Education or equivalent examination can also apply.

Candidates who qualify in the SSB interview will be required to submit Matriculation and/or 12th class pass or equivalent certificates in original to Army HQ RTG (NDA Entry), West Block III, R.K. Puram, New Delhi-110066 by 23rd June, 1989 failing which their candidature will be cancelled. Certificates in original issued by the Principals of the institutions are also acceptable in cases where Boards/Universities have not yet issued certificates. Certified true copies/photostat copies of such certificates will not be accepted.

In exceptional cases the Commission may treat a candidate, who does not possess any of the qualifications prescribed in this rule as educationally qualified provided that he possesses qualifications the standard of which in the opinion of the Commission justifies his admission to the examination.

NOTE:— Candidates who are debarred by the Ministry of Defence from holding any type of commission in the defence services shall not be eligible for admission to the examination and if admitted, their candidature will be cancelled.

4. FEE:

(i) Candidates seeking admission to the examination must pay to the Commission with the completed application form a fee of Rs. 28.00 (Rupees twenty eight) through central recruitment fee stamps or crossed Indian Postal Orders payable to the Secretary, Union Public Service Commission at the New Delhi General Post Office or through crossed Bank Draft from any branch of the State Bank of India payable to the Secretary, Union Public Service Commission at the State Bank of India, Main Branch New Delhi.

NOTE I:— Central Recruitment Fee Stamps (Not Postage Stamps) may be obtained from the Post Office and affixed on the first page of the application form in the space provided for the purpose. The stamps may be got cancelled from the issuing post office with the date stamp of the post office in such a manner that the impression of the cancellation stamp partially overflows on the application form itself. The impression of the cancellation stamp should be clear and distinct to facilitate identification of date and the post office of issue. Postage Stamps will in no case be acceptable in lieu of 'Central Recruitment Fee Stamps'.

NOTE II:— Candidates should write their name and address on the reverse of the Bank Draft at the top at the time of submission of their applications. In the case of Postal Orders the name and address should be written by the candidates on the reverse of the Postal Orders at the space provided for the purpose. Candidates residing

abroad should deposit the prescribed fee in the office of India's High Commissioner, Ambassador or Representative abroad, as the case may be, for credit to the account head '051, Public Service Commission-Examination Fees' and attach the receipt with the application.

APPLICATIONS NOT COMPLYING WITH THIS REQUIREMENT WILL BE SUMMARILY REJECTED.

CANDIDATES BELONGING TO SCHEDULED CASTES/SCHEDULED TRIBES ARE NOT REQUIRED TO PAY ANY FEE.

The Commission may, at its discretion remit the prescribed fee in certain categories of cases of persons. For details see Employment News/Rozgar Samachar, dated 18th June, 1988.

(i) A refund of Rs. 15/- (Rupees Fifteen) will be made to a candidate who had paid the prescribed fee and is not admitted to the examination by the Commission. If, however, the application is rejected on receipt of information that the candidate has failed in the 12th class or of equivalent examination or will not be able to submit the proof of passing the 12th class or equivalent examination by the prescribed date, he will not be allowed refund of fee.

(ii) A refund of Rs. 28/- (Rupees Twenty eight) will be allowed in the case of candidate who took the NDA and Naval Academy Examination held in December, 1987 or May, 1988 and is recommended for admission to any of the courses on the results of these examinations provided his request for cancellation of candidature for the NDA and Naval Academy Examination December, 1988 and refund of fee is received in the office of the Commission on or before 28th February, 1989.

No claim for a refund of the fee paid to the Commission will be entertained except as provided above nor can the fee be held in reserve for any other examination or selection.

5. HOW TO APPLY:

A candidate seeking admission to the Examination must apply to the Secretary, Union Public Service Commission, Dholpur House, New Delhi-110011, on the application form published alongside. The candidates may utilise in original the form published in the Newspapers or in 'Employment News' filling up the columns in their own handwriting with ball-point pen. They may also use the application form and the Attendance Sheet neatly typewritten on white paper (foolscap size) in double space and typed on only one side of the paper. There is no objection to candidates using printed Application Form and Attendance Sheet, if available, from private agencies as long as the format is exactly the same as published alongside of this advertisement. Candidates should note that applications filled on the format used for the previous examinations will not be considered. The envelope containing the application should be superscribed in bold letters as 'APPLICATION FOR NATIONAL DEFENCE ACADEMY AND NAVAL ACADEMY EXAMINATION, DECEMBER, 1988'.

(a) A candidate must send the following documents with his application:—
(i) Central Recruitment Fee Stamps/Crossed Bank Draft/Indian Postal Order or Indian Mission Receipt for the prescribed fee (unless remission of fee is claimed);
(ii) Attendance Sheet (printed alongside) duly filled in on foolscap size paper;
(iii) Two identical copies of recent passport size (5 cm. x 7 cm. approx) photograph of the candidate—one pasted on the application form and the other on the Attendance Sheet in the space provided therein;
(iv) One self-addressed post-card;
(v) Three self-addressed unstamped envelopes of 11.5 cms. x 27.5 cms. size.

(b) Candidates should note that only International form of Indian numerals is to be used while filling up the application form. Even if the date of birth in the SSLC or its equivalent certificate has been recorded in Hindi numerals, the candidate should ensure that while entering it in the Application Form he uses International form of Indian numerals only. They should take special care that the entries made in the application form should be clear and legible. In case there are any illegible or misleading entries, the candidates will be responsible for the confusion and the ambiguity caused in interpreting such entries.

(c) All candidates, should submit their applications direct to the Commission. If any candidate forwards his application through his employer and it reaches the Union Public Service Commission late, the application, even if submitted to the employer before the closing date will not be considered.

Persons serving under the Public Enterprises are, however, required to submit an undertaking that they have informed in writing their Head of Office/Department that they have applied for this Examination.

Candidates should note that in case a communication is received from their employer by the Commission withholding permission to candidates applying for/appearing at the examination their applications shall be rejected/candidates shall be cancelled.

Candidates serving in the Armed Forces must submit their applications through their Commanding Officer who will forward it to the Commission.

The applications of Sailors (including boys and artificer apprentices) of the Indian Navy will be entertained only if these have been duly recommended by their Commanding Officers.

Cadets of Rastriya Indian Military College (previously known as Sainik School), Dehra Dun, Students of Military Schools (formerly known as King George's Schools) and Sainik Schools run by the Sainik Schools Society should submit their applications through the Principal of College/School concerned.

NOTE: Applications not accompanied by the prescribed fee (unless remission of fee is claimed vide para 4 above) or incomplete or defective applications shall be summarily rejected. No representation or correspondence regarding such rejection shall be entertained under any circumstances.

Candidates are not required to submit alongwith their applications any certificate in support of their claims regarding Age, Educational Qualifications, Scheduled Castes and Scheduled Tribes etc. They should therefore ensure that they fulfil all the eligibility conditions for Admission to the examination. Their admission to the examination will also therefore be purely Provisional. If on verification of any later date it is found that they do not fulfil all the eligibility conditions their candidature will be cancelled. Candidates are requested to keep ready the following documents for submission to the Army Headquarters soon after the declaration of the result of the written part of the examination which is likely to be declared in the month of March, 1989.

(1) Certificate of Age, (2) Certificate of Educational Qualification, (3) Certificate in support of claim to belong to Scheduled Caste/Scheduled Tribe where applicable, (4) Certificate in support of claim for fee concession, where applicable.

IMMEDIATELY AFTER THE DECLARATION OF THE RESULTS OF THE WRITTEN PART OF THE EXAMINATION, SUCCESSFUL CANDIDATES WILL BE REQUIRED BY THE ARMY HEAD QUARTERS TO FURNISH SOME ADDITIONAL INFORMATION. THE ATTESTED COPIES OF THE ABOVE MENTIONED CERTIFICATES WILL HAVE TO BE SENT IMMEDIATELY TO THE ARMY HEAD QUARTERS, AG's BRANCH RTG, (NDA ENTRY) WEST BLOCK 3, WING-I, RAMAKRISHNAPURAM, NEW DELHI-110066 AT THAT TIME. ORIGINALS WILL HAVE TO BE PRODUCED BY THE CANDIDATES WHO QUALIFY AT THE SSB INTERVIEW SOON AFTER THE INTERVIEW.

If any of their claims is found to be incorrect, they may render themselves liable to disciplinary action by the Commission in terms of para 6 of the Commission's Notice for the NDA and Naval Academy Examination December, 1988, published in the Employment News/Rozgar Samachar dated 18th June, 1988.

CANDIDATES MAY NOTE THAT THEY SHOULD NOT APPLY TO THE U.P.S.C. FOR APPLICATION FORM, RULES, SYLLABUS ETC. THE APPLICATION FORM PRINTED ALONG WITH THIS ADVERTISEMENT SHOULD BE USED AS EXPLAINED ABOVE. FOR FURTHER DETAILS SEE EMPLOYMENT NEWS/ROZGAR SAMACHAR DATED 18th June, 1988.

6. LAST DATE FOR RECEIPT OF APPLICATIONS:

The completed application form must reach the Secretary, Union Public Service Commission, Dholpur House, New Delhi-110011 by post or by personal delivery at the counter on or before the 1st August, 1988 (the 16th August, 1988 in the case of candidates residing in Assam, Meghalaya, Arunachal Pradesh, Mizoram, Manipur, Nagaland, Tripura, Sikkim, Ladakh division of J & K State, Lahaul & Spiti district and Pangi Sub-Division of Chamba District of Himachal Pradesh, Andaman and Nicobar Islands or Lakshadweep and for candidates residing abroad from a date prior to 1st August, 1988 and whose

applications are received by post from one of the areas mentioned above) accompanied by necessary documents.

A candidate residing in Assam, Meghalaya, Arunachal Pradesh, Mizoram, Manipur, Nagaland, Tripura, Sikkim, Ladakh Division of J & K State, Lahaul & Spiti District and Pangi Sub-Division of Chamba District of Himachal Pradesh, Andaman and Nicobar Islands or Lakshadweep and candidates residing abroad may at the discretion of the Commission be required to furnish documentary evidence to show that he was residing in Assam, Meghalaya, Arunachal Pradesh, Mizoram, Manipur, Nagaland, Tripura, Sikkim, Ladakh Division of J & K State, Lahaul & Spiti District and Pangi Sub-Division of Chamba District of Himachal Pradesh, Andaman and Nicobar Islands or Lakshadweep or abroad from a date prior to 1st August, 1988.

NOTE:

(i) Candidates who are from areas entitled to additional time for submission of applications should also clearly indicate in their addresses in the relevant Column of the application the name of the particular area or region entitled to additional time (e.g. Assam, Meghalaya, Ladakh Division of J & K State, etc.) otherwise they may not get the benefit of additional time.

(ii) Candidates are advised to deliver their applications by hand at the UPSC counter or send it by Registered Post. The Commission will not be responsible for the applications delivered to any other functionary of the Commission.

IMPORTANT: ALL COMMUNICATIONS TO THE COMMISSION SHOULD INVARIABLY CONTAIN THE FOLLOWING PARTICULARS:—

(1) NAME OF EXAMINATION, (2) MONTH AND YEAR OF EXAMINATION, (3) APPLICATION REGISTRATION NO./ROLL NUMBER OR THE DATE OF BIRTH OF CANDIDATE IF THE APPLICATION REGISTRATION NO./ROLL NUMBER HAS NOT BEEN COMMUNICATED, (4) NAME OF CANDIDATE (IN FULL AND IN BLOCK CAPITALS), (5) POSTAL ADDRESS AS GIVEN IN APPLICATION.

N.B.: (i) COMMUNICATIONS NOT CONTAINING THE ABOVE PARTICULARS MAY NOT BE ATTENDED TO.

N.B.: (ii) IF A LETTER/COMMUNICATION IS RECEIVED FROM A CANDIDATE AFTER AN EXAMINATION HAS BEEN HELD AND IT DOES NOT GIVE HIS FULL NAME AND ROLL NUMBER, IT WILL BE IGNORED AND NO ACTION WILL BE TAKEN THEREON.

N.B.: (iii) CANDIDATES RECOMMENDED BY THE COMMISSION FOR INTERVIEW BY THE SERVICES SELECTION BOARD WHO HAVE CHANGED THEIR ADDRESSES SUBSEQUENT TO THE SUBMISSION OF THEIR APPLICATIONS FOR THE EXAMINATION SHOULD IMMEDIATELY AFTER ANNOUNCEMENT OF THE RESULT OF THE WRITTEN PART OF THE EXAMINATION NOTIFY THE CHANGED ADDRESS ALSO TO ARMY HEADQUARTERS AG's BRANCH RTG, (NDA Entry) WEST BLOCK 3, WING I, RAMAKRISHNA PURAM, NEW DELHI-110066. FAILURE TO COMPLY WITH THIS INSTRUCTION WILL DEPRIVE THE CANDIDATE OF ANY CLAIM TO CONSIDERATION IN THE EVENT OF HIS NOT RECEIVING THE SUMMONS LETTER FOR INTERVIEW BY THE SERVICES SELECTION BOARD.

Candidates whose names have been recommended for interview by the Services Selection Board should address enquiries or requests if any relating to their interview direct to the Army Headquarters, AG's Branch RTG, (NDA Entry) West Block 3, Wing I, Ramakrishnapuram, New Delhi-110066.

Candidates are required to report for SSB interview on the date intimated to them in the call-up letter for interview. Request for postponing interview will only be considered in exceptional circumstances and that too if it is administratively convenient for which Army HQ will be sole deciding authority.

Candidates who qualify at the SSB interview on the results of the written examination will be required to submit their original certificates in support of their age and educational qualifications etc. to Army HQ, RTG (NDA Entry), West Block III, R.K. Puram, New Delhi-110066, soon after the interview.

Candidates whose names appear in the final merit list issued by the UPSC must notify their latest recruitment to the Army HQ AG's Branch RTG, (NDA Entry), West Block 3, Wing I, Ramakrishnapuram, New Delhi-110066, immediately after publication of the merit list in the newspapers, if there is any change in the address already given so that joining instructions issued by the Army HQ reach them in time. In case this is not done, the responsibility of non-receipt of the joining instructions will rest with the candidate.

7. No request for withdrawal of candidature received from a candidate after he has submitted his application will be entertained under any circumstances.

M.K. KRISHNAN

DEPUTY SECRETARY

UNION PUBLIC SERVICE COMMISSION.

APPENDIX-1 (a)

The Scheme and Syllabus of Examination A. SCHEME OF THE EXAMINATION

IMPORTANT NOTE

1. Union Public Service Commission in consultation with the Ministry of Defence have introduced recruitment to the Indian Navy through the 10+2 (Executive Branch) course at the Naval Academy in the Scheme of National Defence Academy Examination w.e.f. the N.D.A. Examination held in December, 1987. The Scheme for admission to the Naval Academy will be the same as in the case of Army, Navy and Air Force Wings of the National Defence Academy Examination except that a candidate for admission to Naval Academy should have passed 12th Class of the 10+2 pattern or equivalent with Physics, Chemistry and Maths.

2. Union Public Service Commission in consultation with the Ministry of Defence have simplified the previous Scheme of the National Defence Academy Examination. The previous Scheme of the National Defence Academy Examination comprised five papers — 2 of Mathematics, 2 of General Knowledge and 1 of English, each of two hours duration spread over a period of three days. The new revised Scheme which has been introduced from National Defence Academy Examination, December, 1988 is a simplified one and consists of two papers — (i) Mathematics covering Maths I and II of previous Scheme and (ii) General Ability Test covering General Knowledge and English of previous Scheme as per details given below.

1. The subjects of the written examination, the time allowed and the maximum marks allotted to each subject will be as follows:

Subject	Duration	Max. Marks
Mathematics	3 hours	300
General Ability Test	3 hours	600
TOTAL		900

2. THE PAPERS IN ALL THE SUBJECTS WILL CONSIST OF OBJECTIVE TYPE QUESTIONS ONLY. THE QUESTION PAPERS (TEST BOOKLETS) WILL BE SET IN ENGLISH ONLY.

The 'Candidates Information Manual' containing details pertaining to Objective Type Tests including sample questions will be supplied to candidates alongwith the Admission Certificate.

3. In the question papers, wherever necessary, questions involving the Metric System of Weights and Measures only will be set.

4. Candidates must write the papers in their own hand. In no circumstances will they be allowed the help of a scribe to write the answers for them.

5. The Commission have discretion to fix qualifying marks in any or all the subjects at the examination.

6. The candidates are not permitted to use calculators or Mathematical or logarithmic tables for answering objective type papers (Test Booklets). They should not, therefore, bring the same inside examination hall.

B. SYLLABUS OF THE EXAMINATION

PAPER-I MATHEMATICS (Maximum Marks — 300)

Arithmetic: Number Systems—Natural numbers, Integers, Rational and Real number. Fundamental operation—addition, subtraction, Multiplication, division, Square roots, Decimal fractions.

Unitary method—Time and distance, time and work, Percentages—applications to simple and compound interest, profit and loss, Ratio and proportion, variation.

Elementary Number Theory, Division algorithm, Prime and composite numbers. Test of divisibility by 2, 3, 4, 5, 9 and 11. Multiples and factors. Factorisation Theorem. H.C.F. and L.C.M. Euclidean algorithm.

Logarithms to base 10, laws of logarithms.

Mensuration: Areas of squares, rectangles, parallelograms, triangle and circles. Area of figures which can be split up into these figures (Field Book). Surface area and volume of cuboids, lateral surface and volume of right circular cones and cylinders. Surface area and volume of spheres.

Algebra: Basic Operations, simple fractions, Remainder Theorem, H.C.F., L.C.M. of polynomials. Solutions of quadratic equations, relation between its roots and coefficients. (Only real roots to be considered). Simultaneous linear equations in two unknowns analytically and graphical solutions. Practical problems leading to two simultaneous linear equations in two variables or quadratic equations in one variable and their solutions. Set language and set notation. Rational expression and conditional identities. Laws of indices.

Geometry: Lines and angles. Plane and plane figures. Theorems on (i) Properties of angles at a point, (ii) Parallel lines, (iii) Sides and angles of a triangle, (iv) Congruency of triangles, (v) Similar triangles, (vi) Concurrence of medians and altitudes, (vii) Properties of triangles, sides and diagonals of its parallelogram, rectangle and square, (viii) Circle and their properties including tangent and normals, (ix) loci.

Trigonometry: Sine X, Cosine X, Tangent X when $0^\circ \leq X \leq 90^\circ$. Value of sine X, cos X and tan X for $X = 0^\circ, 30^\circ, 45^\circ, 60^\circ$ and 90° .

Simple trigonometrical identities. Use of trigonometrical tables. Simple cases of heights and distances.

Statistics: Collection and tabulation of statistical data. Graphical representation—frequency polygons, histograms, bar charts pie charts etc.

Calculation of mean of raw and grouped data.

PAPER-II-GENERAL ABILITY TEST (Maximum Marks—800)

Part 'A'—ENGLISH (Maximum Marks—200)

The question paper in English will be designed to test the candidate's understanding of English and work-man-like use of words. The syllabus covers various aspects like: Grammar and usage, vocabulary, comprehension and cohesion in extended texts to test the candidate's proficiency in English.

Part 'B'—GENERAL KNOWLEDGE (Maximum Marks—400)

The question paper on General Knowledge will broadly cover the subjects: Physics, Chemistry, General Science, Social Studies, Geography and Current Events.

The syllabus given below is designed to indicate the scope of these subjects included in this paper. The topics mentioned are not to be regarded as exhaustive; and questions on topics of similar nature not specifically mentioned in the syllabus may also be asked. Candidate's answers are expected to show their knowledge and intelligent understanding of the subject.

Section 'A' (Physics)

Physical Properties and States of Matter, Mass, Weight, Volume, Density and Specific Gravity, Principle of Archimedes, Pressure Barometer.

Motion of objects, Velocity and Acceleration. Newton's Laws of Motion. Force and Momentum. Parallelogram of Forces. Stability and Equilibrium of bodies, Gravitation, elementary ideas of Work, Power and Energy.

Effects of Heat. Measurement of Temperature and Heat. Change of State and Latent Heat. Modes of transference of Heat.

Sound waves and their properties. Simple musical instruments. Rectilinear propagation of Light. Reflection and refraction. Spherical mirrors and Lenses. Human Eye.

Natural and Artificial Magnets. Properties of a Magnet, Earth as a Magnet.

Static and Current Electricity. Conductors and Non-conductors Ohm's Law. Simple Electrical Circuits. Heating, Lighting and Magnetic effects of Current. Measurement of Electrical Power, Primary and Secondary Cells. Use of X-Rays.

General Principles in the working of the following:—

Simple Pendulum, Simple Pulleys, Siphon, Levers, Balloon, Pumps, Hydrometer, Pressure Cooker, Thermos Flask, Gramophone, Telegraphs, Telephone, Periscope, Telescope, Microscope, Mariner's Compass, Lightning Conductors, Safety Fuses.

Section 'B' (Chemistry)

Physical and Chemical changes. Elements, Mixtures and Compounds, Symbols, Formulae and simple Chemical Equations. Law of Chemical Combination (excluding problems). Properties of Air and Water.

Preparation and Properties of Hydrogen, Oxygen, Nitrogen and Carbon dioxide, Oxidation and Reduction.

Acids, Bases and Salts.

Carbon—Different forms.

Fertilizers—Natural and Artificial.

Materials used in the preparations of substances like Soap. Glass Ink Paper, Cement, Paints, Safety Matches and Gun-Powder.

Elementary ideas about the Structure of Atom, Atomic Equivalent and Molecular Weights, Valency.

Section 'C' (General Science)

Difference between the living and nonliving.

Basis of Life-Cells, Protoplasm and Tissues.

Growth and Reproduction in Plants and Animals.

Elementary knowledge of human Body and its important organs. Common Epidemics, their causes and prevention.

Food-Source of Energy for Man. Constituent of food, Balanced Diet.

The Solar System Meteors and Comets, Eclipses.

Achievements of Eminent Scientists.

Section 'D' (History, Freedom Movement etc.)

A broad survey of Indian History, with emphasis on Culture and Civilisation.

Freedom Movement in India.

Elementary study of Indian Constitution and Administration.

Elementary knowledge of Five Years Plans of India.

Panchayati Raj, Co-operatives and Community Development.

Rhodan, Sardarvada, National Integration and Welfare State, Basic teachings of Mahatma Gandhi.

Forces shaping the modern world; Renaissance Exploration and Discovery. War of American Independence, French Revolution, Industrial Revolution, and Russian Revolution. Impact of Science and Technology on Society.

Concept of one World, United Nations Panchsheel, Democracy, Socialism and Communism. Role of India in the Present World.

Section 'E' (Geography)

The Earth, its shape and size. Latitudes and Longitudes. Concept of Time. International Date Line. Movements of Earth and their effects. Origin of Earth, Rocks and their classification; Weathering Mechanical and Chemical, Earthquakes, and Volcanoes.

Ocean Currents and Tides.

Atmosphere and its composition; Temperature and atmospheric Pressure, Planetary Winds, Cyclones and Anti-cyclones; Humidity; Condensation and Precipitation; Types of Climate. Major Natural regions of the World.

Regional Geography of India—Climate, Natural vegetation Mineral and Power resources;

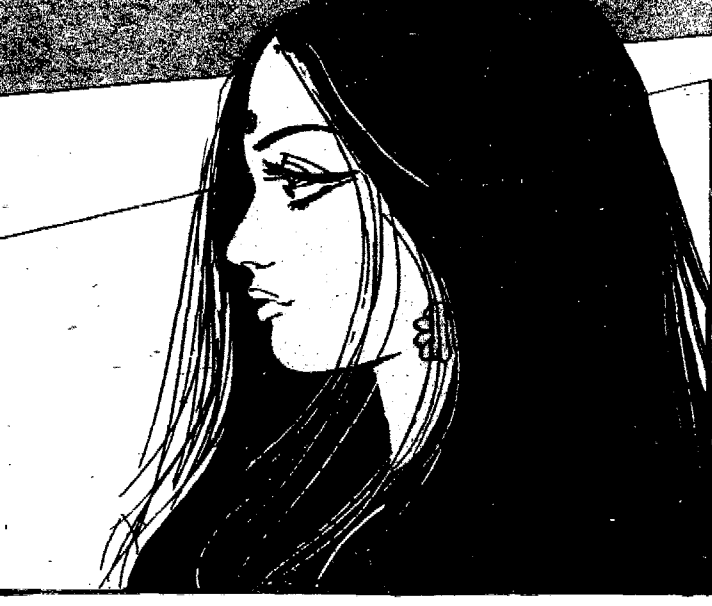
రేండులరాత్రి

బుధవారం 27-4-88

కొన్ని పెళ్ళిళ్ళు పట్టవరకు వచ్చి అగిరిపోయాయి. అందులో కట్టిన సంఘటనలు కొన్నింటిని, ఆ పెళ్ళి కాలము అని చెప్పుకుంటూ కొన్ని, ఏదైనా పేరంటంలో అన్నీలు తట్టించినపుడు "ఏమీ పన్నీ మీ అబ్బాయి పెళ్ళి ఎందుకు అగిరిపోయింది?" అని ప్రశ్నిస్తే, వారు కూర్చోబెట్టి కథ విన్నవస్తారు. "అదేకే అమ్మ అపిల్లను మంచిమూల చేసుకున్నామా? మరుసటిరోజు మీ బాబాయి గారు ఏ. ఏ. వచ్చి పరిటామరే తర్వాత అప్పుడే అనుకున్నా దాని కాళ్ళు చూసి ఇంక వెదల్చు. ఇంతలాపు ఉన్నా యిసుకో ఇది అయ్యగారు పెడితే ఏ అనర్థాలు జరుగుతాయో అని. ఇంకా అడుగెట్టక ముందే దాని ప్రభావం చూశామా? అందుకే మీ బాబాయిగారే వెచ్చి అపింపేళ్ళ మామదారి సంబంధం. ఏదో నాగాజులు, కుంకమ గడ్డినే అమ్మో" అంటూ అనవరత ముగా విడుదల చేస్తుంది. అక్కడ చేరిన అమ్మ, లక్కలు "అంతమరి గొడ్చిపైన వేళ - ఏల్లాచ్చిన వేళ అని తురికి అన్నారా? కాబోయే కోడలి కాలు బాపుండాని లేకుంటే అన్నీ అనర్థాల అంటూ తమ కోర్కె పాను భూతి చూపిస్తారు.

కొడుక్కో, తమ్ముడికే సంబంధం నిశ్చయమయ్యాకనే పన్ను దుర్బటన జరిగింది దానికి కారణం అవతలి అమ్మాయేనా? మరి, ఏదైనా మంచి సంఘటన జరిగితే దానికి కారణం ఎవరూ? అది లక్కలోకి రాదు. అప్పుగడ్డి తినలేదనో, ఇంటి పెద్దకు బి. ఏ. పెరిగిందనో సంబంధాలు తెలిస్తేనే అ అమ్మాయి భవిష్యత్తు ఏం కాదో? ఏల్ల సవాల్ కోరికలకు తలపడిన ఇలాంటి సంఘటనల వలన సంబంధం తెగిపోయి దురదృష్ట వంతురాలు అని ముద్ర పడిన ఆ అమ్మాయి సంఘంలో ఎలా బ్రతికాలో? అన్న నిర్బంధం చేసుకున్న ఆ అమ్మాయి తండ్రి ఎలా తేరుకుంటాడు? అమ్మాయి తండ్రి తనదే మాత్రమేదనకాదు. ఈ యింటో అమ్మాయి తండ్రి ఏదైనా అయితా?

అన్ని అనర్థాలకు 'ఆ' పేరే కారణం!



అటుటులు పేరంటాలు కాగా? ఇలాంటి సంఘటనలకు పూర్తి కారణము ఆదావాల్లే! ఇలాంటి ఆలోచనలు - తాపాలు కలిగి ఆదావాల్లే. దయచేసి మగవాళ్ళు వాళ్ళు అధికంపట్టు ఆదకుండా వాళ్ళకు బుద్ధి చెప్పాలి. మన అమ్మాయికే ఇలా జరిగితే? అని ఆలోచించి వచ్చివెళ్ళాలి. సాధి అదవారి క్రొత్తానికి, కలిసొచ్చానికి అదవల్లలు బరి అయిపోతున్నాడు. మరి, స్త్రీ జనోద్ధరణ ఎలా జరుగుతుంది? ఆ ఆలోచించి మీ సాధి అదవల్ల కీచితో కామున స్త్రీ జనోద్ధరణకే వీరేకరింగం, రాజాచార్యులనురాదు రాంట్ సందిమిడ్డ కండాల్నిందే కాని, అది స్త్రీని అధిగతి వాలు చేయడానికి సాధిస్తే, యే కాబోయే ఆత్మ రూపంలోనో, కాబోయే అదవమర రూపంలోనో వాటు పెడు

వివిధ ప్రాణులు అవారాన్ని వివరించు సందర్భంలో చిత్ర విచిత్ర రీతులను అనుసరిస్తాయి. చార్మికి అతే అవరూపాలు తలకింద బెట్టి కాళ్ళు పైకితీసి అవారం పించాయి. అది బండలమీద తల అనించి, నత్తగుల్లలను కాళ్ళతో టిచ్చి లోపలి తీసివేసి వేళ్ళతో నోటికి అందిస్తాయి. ఈ వింతను ఒక ప్రసిద్ధ పక్షి శాస్త్రజ్ఞుడు గమనించి వెల్లడి చేశాడు.

వత్తంగి పెట్టి జాతికి చెందిన పక్షికాక మట్టిపురుగులను ఇష్టంగా పించుంది. నేలలోపలి పురుగుల్ని బయటికి రప్పించడానికి దానికి ఉపాయం తెలుసు. పురుగులున్నట్టు గమనించిన చోటికెళ్ళి నేలను కాళ్ళతో తయతా స్పృశం చేస్తుంది. దాంతో మట్టిలోపలన్న పురుగులు వర్షం కురుస్తానని భ్రమపడి బయటికి వస్తాయి. అప్పుడు పక్షికాక వాటిని పట్టి అరగిస్తుంది. నేలమీద, నీటిలోను సంచరించే జీవానే పక్షి పాలమండర నీటిలో వెదల్చుగా వాగే ఎలాన్నో పంటి నోటిని ఒక్కసారిగా తెరిచి మూస్తుంది. నీటిలో వాటు చుట్టూ ప్రక్కల చేపలు కూడా పలలాంటి దాని నోటిలోకి వస్తాయి.

కొన్ని జాతుల మొసళ్ళు ఒడ్డునున్న ఇసుకపై తలపెట్టి, మిగిలిన శరీరాన్ని నీటిలోనే వుంచి విశ్రాంతి తీసుకుంటున్నట్లు నడిచాయి. చేపల గుంపు సమీపానికి వచ్చినపుడు తకతే మొసళ్ళు వేగంతో కొట్టి వాటిని ఒడ్డుపై పడబెట్టి చేసి తాపగా వాటిని పించాయి.

క్యాటఫిష్ అకల్పిస్తున్న బలవంతమైన మరో చేపను పంచాడు. గాఢరావడిన ఆ చేప తిన్నదంతా కళ్ళిస్తుంది. క్యాటఫిష్ ఆ కట్టిన అవారాన్ని పించుంది. సేనర పక్షి పరిగిన నత్తగుల్లల్ని చీపుర్ని



ప్రాణులకు తెలిసిన ఉపాయాలు

సత్తుగుల్లల్ని చీపుర్ని తినడానికి బృహత్ పంతుండు. ప్రయత్నమే చేస్తుంది. అవి ఒక పట్నాన పగలపు. సేగర్ వాటిని తీసుకొని బాగా ఎత్తుకు ఎగిరి కిందనున్న బండలమీద పడేటట్లు వదులుతుంది. అప్పుడు దీని పరిగిన నత్తగుల్లల్ని చీపుర్ని కూడా పుండదు. కాలులు అవారాన్ని నిల్వ రనాయనాల వల్ల గించు చెడిపోతుంది.

జేసుకోవటంలో చాలా తరచి పుంటాయి. కాలులకు చరికాలలో అవారపు ప్రదర్శిస్తాయి. అవి కాలులను పలచి కొరత ఎక్కువగా ఉంటుంది. అప్పుడు మంచి గించల్ని ఎన్నుకొని పల్లెటూళ్ళల్లో నిల్వచేసిన అవారాన్ని బయటికి తీసి వెళ్తా చవారం బోసే పెంటబోగుల్లో పించాయి.

-వై. భాస్కరరావు

మీకు తెలియదా? అయితే తెలుసుకోండి!

- * దిలిఫోన్ దిక్కాలజి ఉపాతీతంగా పెరిగిన ఈ కాలంలో కూడా గ్రీనహౌస్ లో ఒక్కటంటే ఒక్క దిలిఫోన్ కూడా లేదు!
- * ఎగరలేని జంతువు ఒక్కటే. మనందరం ఎప్పుడో ఒకప్పుడు చూచే ఉంటాం. మరేదో కాదు... ఏనుగు!
- * శబ్దాలు రంగ్రాంలను వేస్తాయి. ఈ ఆంకం పట్టు ఇటీవల పరిశోధన బాగా మరుకుగా పొగుతోంది.
- * జలపాతాలు కొండలపై నుంచి నేలపైకి ఉరుకుతాయి. అయితే హిమాలయ్ లోని ఒక్క జలపాతం మాత్రం నేలనుంచి కొండపైకి ప్రవహిస్తుంది.
- * పాములు దాదాపుగా ప్రపంచం అంతటా ఉన్నాయి. కాని జరిరాండోలో మాత్రం మచ్చుకి ఒక్కపాము కూడా లేదు!
- * ప్రతి సంవత్సరం 2000 రకాల కొత్త కీటకాలను శాస్త్రజ్ఞులు కనిపెడుతున్నారు!
- * నత్తలు నిద్రపోవడంలో కుంభకర్మని కూడా మించి పోతాయి. ఒక్కోనత్త కనీసం ఏకదశమైన 3-4 సంవత్సరాల పాటు నిద్రపోగలడం!
- * మన శరీరం మొత్తం రక్తం ప్రసరించడానికి పట్టికాలం ఒకే ఒక్క నిమిషం! అక్షరాల 60 సెకండ్లు!!
- * సీతాకోక చిలుకకి 12000 కళ్ళు ఉంటాయి. మనకు కనిపించేవి రెండే సంయుక్త నేత్రాలు కాని అందులోనే సూక్ష్మ నేత్రాలు వేల సంఖ్యలో ఉంటాయట!
- * ప్రపంచంలో ప్రస్తుతం ఎక్కువ మందిని బాధిస్తున్న వ్యాధి ఏకలరానో మలేరియానో కాదు - కేవలం పంటి నోళ్ళు!

నవరసం పరిశోధన

ఆంధ్రపత్రిక ప్రచురణ

బాలరంజని

పిల్లల గురిత్ర మాన పత్రిక

డియర్ బుడ్డి, 'బాలరంజని' ఏళ్ళుల మాన పత్రిక మామనావా? వదువుతున్నావా? అబ్బో! ఎంత బాగుంటుంది తెలుసో? మంచి మంచి కథలు, సరియైన నవలలు, ప్రతి కథకీ మంచి మంచి రంగుల బొమ్మలు, మరేమో బొమ్మల కథలు, తమాషా కార్నామ్యూ, బోకులు పుంటాయి. అన్నట్లు నేను బామ్మ చేత కథలు చెప్పించుకుంటుంటే మానెనే నేనే అమెకు కథలు చెప్పిస్తున్నాను. రాహుయణ మహాభారతాల్లోని కథలు ఎప్పుడూ పుంటాయి. ఇంకేల కావాలి? మనం చాలానే కీర్తికలు కూడా పున్నాయి. అవేమిటంటే, నాకు నచ్చినవన్నీ, నేను చేసిన మంచి పని, అదగంతి చెప్తాను. ఇట్లాగ, జనరల్ నాలర్స్ విషయాలు అనేకం పుంటాయి.

నువ్వు చందా కట్టకపోతే వెంటనే కట్టి చదువు, వేసేప్పుడో కట్టి కాను. నువ్వు చందా కట్టక నాకు ప్రాస్తావన కూడా తప్పకుండా రావాలి సుమా.

ఇట్లు
ఏడ్చి

బాలరంజని చందా కూపనం

నేను 'బాలరంజని' మాసపత్రికకు చందాదానంగా చేరదలచు కున్నాను. సంవత్సర చందా పైకము రు. 33/- రి.డి.ఎం.ఎ. ద్వారా పంపుతున్నాను.

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